

PROJECT CONCERN INTERNATIONAL

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Child Survival VII

**The Guatemala Child Survival Project
Solola: Children of the Highlands
September 1, 1991 - September 30, 1994**

Cooperative Agreement No. PDC-0500-A-00-1042-00

FINAL EVALUATION REPORT

**SUBMITTED TO
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OFFICE OF PRIVATE AND VOLUNTARY COOPERATION**

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LIST OF TERMS

ARI	Acute Respiratory Infection
Casa Base	Home where oral rehydration salts and education are distributed
CDD	Control of Diarr heal Disease
c s	Child Survival
CSSP	Child Survival Support Program
DIP	Detailed Implementation Plan
EPI	Expanded Program of Immunizations
GM	Growth Monitoring
HIS	Health Information System
IEC	Information, Education and Communication
MOH	Ministry of Health
NGO	Nongovernmental Organization
ORS	Oral Rehydration Salt
ORT	Oral Rehydration Therapy
ORU	Oral Rehydration Unit (see casa base)
PC1	Project Concern International
PVO	Private Voluntary Organization
Rxiin T'namet	Local NGO developed by PC1 staff

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I. PROJECT ACCOMPLISHMENTS AND LESSONS LEARNED

A. PROJECT ACCOMPLISHMENTS

A1. Objectives of the project, as outlined in the Detailed Implementation Plan.

The Child Survival (CS) component of PCI's Sololá Community Health Program was designed to: (a) reinforce local capabilities to deliver CS interventions in the impact area; (b) strengthen the administrative and technical capability of PCI's staff; (c) mobilize community groups to organize and utilize local health services; (d) motivate individuals to participate in community structures that promote quality health services; (e) encourage traditional community health practices; (f) achieve program sustainability.

After careful analysis of the epidemiological and socio-cultural factors of the area and the available resources, PC1 elected to focus on the following interventions: immunizations, **diarrheal** disease control and maternal health care including family planning. This decision was made after the mid-term evaluation which criticized **PCI** for being too spread out into various interventions without sufficient monetary resources to provide high quality services. **The project's objectives were revised as part of the mid-term evaluation. The following objectives reflect the versions of the objectives in place during the final evaluation.**

EPI Objectives

1. To increase the vaccination coverage for children O-1 1 months with nine doses of vaccines, from 24% to 45% by 1994.
2. To increase the current access rate of vaccination services for children from O-1 1 months from 40% to 88% by 1994.
3. To reduce the current "drop-out" rate of vaccination services for children from O-1 1 months from 3 8% to 10% by 1994.
4. To increase the vaccination coverage for pregnant women 15-44 years old with five **TT** doses from 23% to 45% by 1994.
5. To increase mothers' knowledge regarding measles and TT vaccination from 10% to 60% by 1994.

CDD Objectives

1. To increase the number of diarrhea episodes treated with ORS in children under three years of age at the community level, from 19% to 60% in 1994.
2. To increase the number of mothers that:
 - recognize signs of dehydration, from 23% to 80%.
 - make proper use of food during and after the diarrhea episode, from 50% to 75%.
 - seek advice from the Oral Rehydration Units (ORUs), from 50% to 80%.

Care of Mother Objectives

1. To increase attendance of high risk pregnancies to the Women's Clinic and MOH services from 27% to 95% in 1994.
3. To increase the number of women in reproductive high risk who use contraceptive methods, from 2% to 40% in 1994.
4. To increase the number of women using contraceptive methods, from 7% to 20% in 1994.

A2. Accomplishments of the project related to each objective

EPI Objectives¹

1. To increase the vaccination coverage of children 0-11 months with nine doses of vaccines, from 24% to 45% by 1994.
Result: 22% (19/85). [12-23 month age group: 39%]
2. To increase the current access rate of vaccination services for children 0-11 months, from 40% to 88% by 1994.
Result: 76% (65/86) had a DPT1 doses. [12-23 month age group: 86.4%]
3. To reduce the current "drop-out" rate of vaccinations for children 0-11 months, from 38% to 10% by 1994.
Result: 49% [(75.6 - 38.8): 75.61. [12-23 month age group: 35.6%]
4. To increase the vaccination coverage for pregnant women 15-44 years old with 5 TT doses, from 23% to 45% by 1994.
Result: 39% (43/111) had at least 3 or more doses of TT.
5. To increase mother's knowledge regarding measles vaccine, from 10% to 60%.
Result: 84.3% reported knowledge of the vaccine. 60.8% of the mothers reported receiving information from PC1 staff or PCI-trained CHWs.
6. To increase mother's knowledge regarding TT vaccines, from 10% to 60%.
Result: 30% of the mothers knew the TT vaccine was to protect both the mother and the child.

¹It is the opinion of PCF's current staff that the EPI objectives were not properly worded, and should have stated that the project's EPI objectives were related to children between the ages of 12 and 23 months. This would be consistent with the CSSP Child Survival Indicators. The EPI information for the 12-23 month age group is included to demonstrate a more accurate view of project achievements.

CDD Objectives

1. To increase the number of episodes of diarrhea treated with ORS in children under 3 years of age at the community level, from 19% to 60%.

Result: 22% (22001) mothers treated their child's diarrhea with ORS.

2. To increase the number of mothers that:

- Recognize signs of dehydration, from 23% to 80%.

Result: At least 44.4% of the mothers could identify one symptom of dehydration.²

- Make proper use of food during and after **diarrheal** episodes, from 50% to 75%.

Results: 59% gave the same amount or more breast milk.

71% gave the same amount or more liquids.

42% gave the same amount or more solid foods.

Sought advice from Oral Rehydration Units (ORUs), from 50% to 75%.

Results:

16% (16/99) asked the ORUs for help when the child had diarrhea.

46% (71/156) were taught by the ORUs how to prepare ORS.

44% (74/168) got ORS from the ORUs.

Care of Mother Objectives

1. To increase attendance of high risk pregnancies to the Women's Clinic and MOH services from 27% to 95%

Result: *According to PCI/Guatemala, this indicator became unrealistic and impossible to track as it became clear that most women delivering in the village could be labelled "high risk".*

2. To increase the number of women in reproductive high risk who use contraceptive methods, from 2% to 40% in 1994.

Result: *As was the case with care of mother objective #1, this objective was unrealistic to track since most women of reproductive age could be classified as "high risk". PCI elected to utilize couple year protection (CYP) as its operational objective. At the time of the evaluation report (November, 1994), PCI contraceptive distribution efforts had increased from 35 to 190 annual CYP.*

²Unfortunately the analysis of the final survey data was not performed in such a way that PCI could clearly identify which mothers knew one method and which mothers knew multiple methods. Therefore, PCI has elected to be conservative in its estimate and used the figure of 44.4% which represents the proportion of mothers who could identify a dry mouth as a sign of dehydration. In reality, the proportion of mothers who can identify at least one symptom is most likely greater.

3. To increase the number of women using contraceptive methods, from 7% to 20% in 1994.

Result: Of those women who did not wish to become pregnant in the next two years, 16% were using a method of contraception.

A3. Comparison of accomplishments of the project related to each objective and explanation of the differences.

It is important to mention that as a result of the change in service area since the presentation of the revised DIP, the data obtained by the baseline study are not comparable to the results of the *final* survey. Nevertheless, the data can be utilized to measure progress and identify patterns of accomplishment in the rural and urban zones of Santiago Atitlán and San Juan de La Laguna.

Even though the project's progress towards its objectives was modest, some activities indicated improving trends; including improved access to vaccinations, increased knowledge of mothers about vaccinations and prenatal care behavior and appropriate feeding practices for children with diarrhea. Each intervention will be addressed separately, with general observations to follow.

EPI Objectives

PCI was able to achieve its measles knowledge objective. The other EPI objectives were not met. All results demonstrated improvements in coverage and knowledge, particularly for the 12-23 month cohort. PC1 improved EPI coverage and reduced the risks to infants. This was demonstrated by the large proportion of mothers who listed PC1 **staff** or PCI-trained health workers as their primary sources of information regarding immunizations. PC1 staff reported problems with vaccine availability and MOH strikes throughout the project duration. The MOH was responsible for providing the vaccines and often they could not comply with their obligations. At the end of the last strike in March of 1994, MOH immunization coverage estimates were 17.71% of children completely immunized. Since then, the MOH statistics have risen to 30% complete coverage, showing a marked improvement in coverage when the MOH is operational.

CDD Objectives

PC1 demonstrated improvements in many of the CDD indicators, but failed to achieve the objectives. A lingering problem was the use of medicines for the treatment of diarrhea. More mothers reported using anti-diarrhetics than ORS to treat their child's diarrhea. The final survey showed that only 22% of mothers sought advice from PC1 staff or PCI trained health workers for their child with diarrhea. Over 35% asked family members and/or friends. Because of these disturbing results, PC1 will be reinstating household health education visits that were restricted after the mid-term evaluation.

Care of Mother Objectives

The dramatic increase in the number of contraceptives distributed during the second half of the project (from 35 to 190 annual CYP) is a reflection on the increasing demand for reproductive health services. PC1 believes that by integrating reproductive health into the historical Child Survival interventions, it is well positioned to provide the services desired by men and women who are sexually active. The contraceptive usage objective retained for program management showed improvement and PC1 nearly reached their 20% target. In fact, 76% of those women who were using a method elected to use a natural method.

General Observations Regarding the Achievement of Objectives

The most important circumstances that helped the project were:

- Strong communal sense of the villages served. Active cooperation among their members for the improvement of their communities.
- History of inclusion of community members as volunteers, as an integral part of the project's implementation strategy, including traditional birth attendants.
- The permission of free association and meetings of large numbers of individuals after the removal of the Guatemalan army from Santiago Atitlan.
- The coordination and support of key local institutions such as the radio station, security committee and the association of voluntary firemen.
- The coordination of activities with the Guatemalan Ministry of Health and other local organizations that provided health services since the recent change in government.
- Major restructuring of PC1 project at the country level, including change of residence of country liaison.

The most important circumstances that hindered the project were:

- High turnover of supervisory personnel: change of PCI/HQ program officers in October, 1992; change of PCI/Guatemala country director and project director in September/October, 1993. This created inconsistency in project support.
- The cost of maintaining an expatriate director and support staff in the capital city.
- Time required to train/retrain the personnel to adapt to the new changes/focus of old and new interventions, such as reproductive health.
- Time required to develop/modify custom-made materials to address the high illiteracy levels of the voluntary personnel in the new activities introduced.
- Difficulty in finding qualified bilingual personnel among the Mayan population, particularly females, to occupy positions at all levels.
- Unrealistic expectations of performance stated in the revised DIP, particularly of the EPI and Family Planning components.
- Ideological disagreement/religious barriers from some Protestant and Catholic churches over the issue of contraception and the limitation/elimination of the project's access to the Catholic church's physical facilities.

- Socio-cultural, economic and health related reasons for the high demand for children among the Mayan population.
- Limited ability of the population to purchase health services.
- Preference of curative versus preventive services among the population; due partially to medical emphasis on curative versus preventive services, and the lack of a solid understanding of the advantages of the latter on the part of the population. The consequence was an unwillingness to pay for the services.

A4. Description of unintended benefits of project activities

With so many changes in the project's objectives and activities, it was hard to designate certain outcomes as "unanticipated". Almost every component of the project was different than originally anticipated when the project was designed and the DIP developed. Some of the most surprising unintended benefits reported by PC1 staff and/or local leaders follow.

- 0 The emergence of Rxiin Tnamet as a potentially viable local NGO with the technical capacity to provide high quality health services and raise funds from both local and international donors. This represents true local control of project operations and real potential for sustainability.
- 0 The project's ability to continue providing services to nearly 45,000 residents while drastically cutting costs related to capital city representation.
- 0 **The** emergence of PC1 and Rxiin Tnamet as community leaders in the development of health policy and the incorporation of other entities into the local health network. Examples include the establishment and maintenance of the local cholera committee, the incorporation of PCI-trained **CHWs** into the Medicos del Mundo potable water project, and collaborative agreements with local and district MOH offices.
- 0 The development of democratic decision making within project leadership as a result of the establishment of a junta directiva (executive council) whereby staff have representation in all decision making.
- 0 The ability to supply ORS on a twenty-four hour basis through the use of oral rehydration units.

A5: Final Evaluation Survey

(The final survey report is located in appendix 1)

PROJECT CONCERN INTERNATIONAL CHILDSURVIVALPROJECT-GUATEMALA KEYINDICATOROFCHILDSURVIVALPROJECT PERFORMANCE

No.	KEY INDICATORS	RESULTS
1	<i>Appropriate Infant Feeding Practices: Initiation of Breastfeeding - Percent of infants/children (less than 24 months) who were breastfed within the first eight hours after birth</i>	141 --- = 47% 300
2	<i>Appropriate Infant Feeding Practices: Exclusive Breastfeeding - Percent of infants less than four months, who are being given only breastmilk</i>	38 --- = 91% 42
3	<i>Appropriate Infant Feeding Practices: Introduction of foods - Percent of infants between five and nine months, who are being given solid or semi-solid foods</i>	16 --- = 37% 43
4	<i>Appropriate Infant Feeding Practices: Persistence of Breastfeeding - Percent of children between 20 and 24 months, who are still breastfeeding (and being given solid/semi-solid foods).</i>	14 --- = 58% 24
5	<i>Management of Diarrheal Diseases: Continued Breastfeeding - Percent of infants/children (less than 24 months) with diarrhea in the past two weeks who were given the same amount or more breastmilk</i>	56 --- = 67% 83
6	<i>Management of Diarrheal Diseases: Continued Fluids - Percent of infants/children (less than 24 months) with diarrhea in the past two weeks who were given the same or more fluids other than breastmilk</i>	65 --- = 78% 83
7	<i>Management of Diarrheal Diseases: Continued Foods - Percent of infants/children (less than 24 months) with diarrhea in the past two weeks who were given the same or more food</i>	38 --- = 46% 83
8	<i>Management of Diarrheal Diseases: ORT Use - Percent of infants/children (less than 24 months) with diarrhea in the past two weeks who were treated with ORT</i>	20 --- = 24% 83
9	<i>Pneumonia Control: Medical Treatment - Percent of mothers who sought medical treatment for infant/child (less than 24 months) with cough and rapid, difficult breathing in the past two weeks</i>	N/A

10	<i>Vaccination Coverage (Card): EPI Access - Percent of children 12 to 23 months who received DPT1</i>	70 --- = 91% 99
11	<i>Vaccination Coverage (Card): EPI Coverage - Percent of children 12 to 23 months who received OPV3</i>	42 --- = 42% 99
12	<i>Vaccination Coverage (Card): Measles Coverage - Percent of children 12 to 23 months who received measles vaccine</i>	50 --- = 51% 99
13	<i>Vaccination Coverage (Card): Drop Out Rate - Percent change between DPT1 and DPT3 doses [(DPT1-DPT3) + DPT1]x100 for children 12 to 23 months</i>	(91-45) --- = 51% 91
14	<i>Maternal Care: Maternal Card - Percent of mothers with a maternal card for the birth of the youngest child less than 24 months of age</i>	107 --- = 36% 297
15	<i>Maternal Care: Tetanus Toxoid Coverage (Card) - Percent of mothers who received two doses of tetanus toxoid vaccine (card) before the birth of her youngest child less than 24 months of age</i>	78 --- = 26% 297
16	<i>Maternal Care: One or More Ante-Natal Visits (Card) - Percent of mothers who had at least one ante-natal visit (card) before the birth of her youngest child less than 24 months of age</i>	52 --- = 18% 297
17	<i>Maternal Care: Modern Contraceptive Usage - Percent of mothers of children less than 24 months of age who desire no more children in the next two years, or are not sure, who are using a modern contraceptive method</i>	8 --- = 3% 290

B. PROJECT EXPENDITURES

B1. Pipeline Analysis of Project Expenditures

(A pipeline analysis is enclosed in appendix 2.)

B2. Budget Comparison

USAID awarded PCI over \$3,000,000 to operate Child Survival VII projects in four countries. As these projects progressed, it became apparent that the funds required to provide minimal services in Guatemala, Nicaragua and Bolivia exceeded the resources available. PCI elected to utilize funds from its headquarters allocation to cover these deficiencies in field budgets. The original allocation of USAID funds for PCI/Guatemala was \$605,134. The total amount of USAID funds expended was \$625,619. Various categories of expenditure were above and below original estimates due to changes in the project's management and interventions.

PC1 elected to utilize funds from the “consultants” category to provide for other more important operational costs under the “equipment” and “other direct costs” categories. This variation was approximately \$25,000.

B3. Appropriateness of Project Expenditures

As authorized by the cooperative agreement, PC1 utilized its resources with the flexibility required to achieve project objectives. Originally, **PCI's** financial system tracked CSVII projects as a single cooperative agreement as required by the agreement, and did not provide for quick analysis of country-by-country financial information based on **USAID** pipeline categories. In 1993 and 1994, **PCI** completely restructured its financial management system with the proper reporting and monitoring mechanics required to report on field projects individually, even when multiple projects are covered by a single cooperative agreement.

Inappropriate initial decisions regarding project management and design hindered the project's ability to achieve its objectives. The expenses incurred in Guatemala City did not provide the high quality project results that PC1 demands from its field operations, and the office was closed in 1993. According to PC1 staff, the expenses incurred in Guatemala City created a lack of resources during the second half of the project. PC1 does not plan to reopen its Guatemala City office.

B4. Lessons Learned Regarding Expenditures

Successful Child Survival projects are expensive to operate and traditionally underfunded, particularly when they are designed to include PVO cash resources. There needs to be an understanding on the part of all PVO staff and donor agencies about cash versus in-kind match strategies and their related effect upon how resources are utilized. Field **staff** should plan on operating with **USAID** cash resources and not be dependant on PVO cash resources until donors are identified during the life of the project. Matches were originally designed to encourage the development of PVO fundraising capacity, now **PVOs** need to budget appropriately for cash versus in-kind resources.

When a program is dependent upon local representation and is trying to integrate local practices into new services, it is difficult to make day-to-day financial administrative decisions from distant urban centers such as Guatemala City.'

Because **PCI's** programs were only functional in the rural municipalities of Santiago Atitlan, San Juan de La **Laguna**, and Panajachel, the expense of maintaining a capital city presence for networking and credibility was not justifiable.

With only one project operational, there is little need for more than one PC1 representative in the country.

- For general staff, periodic merit raises are important. They should be spread across the year (every 3-6 months) instead of all at once. The levels offered need to be significant. Meaningless amounts (\$1/mo) can be viewed as an insult. A cost of living salary increase can also serve as a positive motivator.

Field **staff** have a good sense for the equitable distribution of resources. During the mid-term evaluation, field staff were making below minimum wage, while capital city employees made above average professional salaries. By increasing local fiscal planning and management skills, field staff identified the discrepancy and with new management the problem has been resolved.

C. LESSONS LEARNED

(The principal lessons learned are detailed in sections I.B.4, II.C.3, II.C.5, II.E.4. Others are listed below.)

- Community leaders should be involved in selecting staff for community-based projects.
- All staff should be invited to participate in strategic planning and be advised of financial limitations and donor requirements.
- The MOH should be involved throughout the life span of the project from the local to central level, regardless of frustrations.
- Allow for consensual decision making which balances responsibility with authority.
- Day-to-day decisions should be made at the local level.
- Illiterate health workers can contribute to HIS data collection and management.
- Financial data should be automated wherever possible. Data should be included in strategic planning.
- The integration and coordination of interventions at all levels greatly improves the potential to take advantage of lost opportunities to deliver services and education.

II. PROJECT SUSTAINABILITY

A. Community Participation

A1. Community members **interviewed**

In the municipality of San Juan de La Laguna: Victoriano Hernandez-Vicemayor; Jose Mendoza and Pedro Chavajay, Auxiliaries. Traditional birth attendants of San Juan de La Laguna: Maria Emilia Ujpan, **Juana Cholutio Juarez, Candelaria** Cholutio, Nicolasa Chavajay, Antonia Ziclaya and Margarita Vazquez. Proyecto Artesanal of San Juan de La Laguna: **Juana** Mendoza-Director; Antonia Sicay Garcia and Nicolasa Chavajay- Associates. **PCI** staff of San Juan de La Laguna: Mario Eliseo Chavez-EPI supervisor and Federico Quit Sicay-CDD supervisor. In the Aldea of Panyebar: Agustin Puac-Auxiliary Mayor. In Cerro de Oro, Jose Sicay Pacallaj-Auxiliary Mayor. In urban Santiago Atitlan: **Gaspar** Esquina-Director of the voluntary fireman association; Susan Gunn, co-owner Posada de Santiago; Juan Asip-Director of Radio

Santiago Atitlan; Jeronimo Sisay-Mayor of the municipality of Santiago; Salvador Ramirez-President of the Pro-security and development committees. In the aldea of Tzanchaj, Pedro Esquina Mendoza-Auxiliary Mayor. In the aldea of Chacaya, Felipe Julaju Vicente-Auxiliary Mayor.

A2. Perception of effectiveness of child survival activities

In terms of knowledge about the activities undertaken by PCI, there were differences between individuals interviewed in San Juan and Santiago. In general, the community leaders and civil authorities did not appear to be well aware of the activities of the project. In San Juan, after some probing, PCI's activities were identified with immunizations and in Santiago with the clinic Rxiin T'namet.

In San Juan, the activities that were considered more effective were vaccinations and prenatal care, followed by control of diarrheal diseases and hygiene. There was more interest about preventive activities in the rural than in the urban areas. In Santiago, the same pattern was observed regarding preventive activities between the rural and urban areas. As was the case in San Juan, immunizations were considered the most important service provided by PCI.

The only negative comments about the project in Santiago had to do with the clinic. In general, the services were considered insufficient. In San Juan, the municipality mentioned that the donor organizations should coordinate their efforts amongst themselves before asking the community to provide the scarce resources available.

A3. Sustainability activities

Over the past three years, and particularly during the past 18 months, PCI undertook various efforts to help the community better meet their health needs and increase their ability to sustain effective child survival project activities. The following items were viewed as the most important and effective strategies to improve sustainability and project continuation after **USAID** funding ended.

Human and economic resources were transferred from the capital city **office** to the field site to improve the quality and quantity of services.

PC1 made its curative services more accessible to the population by moving the clinic closer to the center of town, extending doctor visits out to rural areas, and establishing mini-pharmacies ("botiquines") with simple over-the-counter medicines to improve access to the most basic medications on a 24-hour basis.

- Two Tzutuhil speaking physicians were hired to staff the clinic. The clinic expanded its working hours to provide 24-hour care. The dental clinic was kept open using local staff. According to the PC1 representative in Guatemala, it cost the project \$1,500 to buy the material and equipment formerly provided by the University of San Carlos when the Estudiante de Practica Social (EPS) accord with the University was terminated. All the above changes were the result of extensive discussions with members of the community.

The clinic prices were revised, and a three-tier system of payment developed. The payment system now starts with lower fees than before and progresses above prior levels. This system was created to address the different income levels of the patients. All these changes were implemented in December of 1993.

- PC1 assisted its staff to apply for local NGO status and to enhance local decision making. This process allowed local staff to take increasing responsibility for the design and implementation of the project's activities.
- PCI coordinated with other agencies for the provision of training for the local staff and Community Health Workers (CHWs). The main agencies involved in the training were The Population Council, APROFAM (local planned parenthood representative), La Leche League and Education Associates.

New cost recovery mechanisms were developed to improve sustainability of health activities; including the mini-pharmacies, the sale of contraceptives, the revision of clinic prices and the coordination of prenatal examinations with the TBAs.

PC1 organized community health committees and a network of community volunteers. The volunteer CHWs were each assigned to one specific intervention and trained accordingly. To date, the project has trained 132 CDD workers, 100 EPI workers, 35 TBAs (jointly with the MOH), and 48 CBDs community based distributors of contraceptives (38 women and 10 men; 3 of these are also TBAs). In addition, personnel of the communities were trained to serve as supervisors of the CHWs and contracted as PCI staff.

A4. Community participation in PCI activities

The original design of the CSVII project was completed by PCI/Guatemala staff. At the time of the original proposal, the military continued their occupation of Santiago, and local staff thought it might be wise to reduce outreach activities in the area and expand outreach and education to neighboring communities that did not have the same risks involved. After the military presence was removed from Santiago Atitlan, the opportunities to continue activities in Santiago improved rapidly. Further refinement of project interventions and the expansion of reproductive health services justified a consolidation of project services to Santiago Atitlan and San Juan de La Laguna.

The design of the revised project, with increased emphasis on maternal health, birth spacing and sustainability, was the result of intense discussions with local community leaders, volunteer community health workers and local organizations. These same groups were invaluable in the implementation of the project and the dramatic changes in focus and scope. Of particular importance were the local PC1 staff members, CHWs and birth attendants, who helped to design the reproductive health intervention, test the appropriateness of the materials and implement the activities.

The mid-term and final evaluations of the project incorporated many of these same community members either as interviewers, interviewees or in the logistics of carrying out the evaluation. The results of the final evaluation will be made available to everyone who participated as well as other interested groups.

A5. Health committees

Two types of health committees functioned in the project's coverage area. The first was the municipal or community health committee located in each municipality. They were formed as a response to the cholera problem. The committees often had male representatives of different cantons, these men were representative of the culture of the communities, however, their interests often did not correspond with the interests of women and children.

The committees rarely met other than for emergencies. Through regular meetings in 1993, PCI was able to work with the committee in Santiago regarding the closing of the old clinic facility and opening the new clinic Rxiin T'namet. PCI reported that recent attempts to motivate the committee have not been successful. An example of this was PCI's need to secure 30-40 mothers to sign an application on behalf of the community in order to get funds from FONAPAZ (Guatemalan Government entity); it was very hard to secure the municipal employees to support the application, but the mothers willingly participated.

The second type of health committees in the project area were the "mother's committees," made up a total of 302 CHWs. They were divided into three groups: CDD with 135 members, which included ORS distributors (the ORU owners); EPI with 86; and reproductive health, with 82, which included TBAs and the community based distributors (CBDs) or "madres orientadoras". The three committees reported their activities every month to their specific supervisor, who in turn sent the information to PCI's office in Santiago. Since most women were illiterate in PCI's project area, the mothers' committees monthly meetings were usually held orally with simple drawings to explain the topic of that day's discussion. The members appeared to be representative of PCI's target population (mothers with children under three years of age). These mothers were not representative of the whole population since they were able to spend more time at home and could spend time carrying out their duties as volunteers.

A6. Significant issues addressed by health committees

PCI introduced the following topics to the municipal committee: maternal morbidity, neonatal morbidity and mortality, cholera, vaccinations, potable water, and the need for more community involvement.

The most important issues addressed by the CHWs were: the treatment of diarrheal disease, including ORS preparation and proper nutrition; the importance of vaccines, the vaccination card and where they could get their child vaccinated; education about reproduction, the importance of proper maternal care, methods to space pregnancies and the distribution of contraceptives.

A7. Methods and role of health committees

The CDD group of CHWs, in addition of distributing ORS, had an educational role with the members of their villages. The focus of the talks given to the mothers was on the treatment of cases of diarrhea without dehydration and dietetic management. The topics included were: causes and consequences of diarrhea, prevention of dehydration, preparation and administration of ORS to the child, signs of dehydration, referral of children with diarrhea and dehydration, appropriate feeding, inappropriate use of medication and diarrhea prevention. The CDD group took over nearly all education measures for cholera patients. The MOH

cholera unit was (and still is) staffed by employees who do not speak Tzutuhil. PCI's CDD employees (not volunteer **CHWs**) visited patients in the MOH cholera unit and their families and provided preventive education. They also visited the homes of patients who left the unit to evaluate the possible etiology of transmission.

The EPI group of **CHWs** were responsible for assuring the immunization of children under one year of age, and of mothers of reproductive age (14 to 45 years). This group gave information about vaccines to mothers with children under one year of age and those of reproductive age. In addition, they monitored the number and dosage of vaccines given to the child by means of bracelets with beads of different colors (each color standing for a type of vaccine and each bead for the number of doses). The coordinators provided the supervisor information about the number of vaccines received by mother and child, and the name and date of birth of the child. This information was collected through meetings and home visits.

The reproductive health groups (**CBDs**) or "**madres** orientadores" were responsible for giving advice and education about methods of spacing pregnancies. They received people in their homes, performed home visits to interested or, "at reproductive risk" women and couples, and gave talks to various community groups such as churches and civic groups. They educated men and women regarding natural and modern family planning methods and distributed contraceptives (condoms, pills, vaginal tablets). They performed referrals to the clinic for injectable methods and IUD insertion. They make referrals to the clinic for problems which arose from family planning methods or reproductive health in general. The distributors were responsible for monitoring method distribution as well as the number of users and reported on the progress monthly.

Increasingly, these volunteers were trained by PC1 to identify children in need of vaccinations or attention for **diarrheal** diseases and make referrals to other volunteers or to project staff. The volunteers participated in monthly meetings and trainings as needed. The mothers committees functioned as the testing ground for all **health** education activities. Their feedback and input were crucial to the development of educational materials.

The specific role of the PCI-trained midwives was to recognize the signs of danger during pregnancy, delivery and during the post-partum period and refer patients to the health services when necessary. They also referred some patients to the "orientadoras" to be given birth spacing information. They reported their activities on a monthly basis. This information included: the number of normal and high risk prenatal controls, the number of normal and high risk deliveries attended, the number of referrals of normal **and** high-risk pregnant women, and the number of orientations and referrals for family planning of normal and high-risk women.

The municipal committee did not play a significant role in project direction, but was involved at critical junctures such as the closing of the hospital, opening of the clinic, and development of collaboration plans with the MOH in vaccination campaigns and maternal health strategies.

AS. Resources contributed by the community.

In their role of community health workers, the members of both communities provided hundreds of hours of volunteer time. In addition, they used their homes to hold meetings with mothers and do home visits, and they also paid for medication and medical services. There is no reason to believe that these behaviors will change after CSVII funding ends.

Some community groups also provided non-financial support. For example, the local radio station allowed the use of their facilities to large groups for activities related to the project. The rural communities lent locales for vaccination campaigns and other activities. The association Amigos de1 Lago of Cerro de Oro allowed the use of their clinic for PCI medical personnel's monthly visits. The association of voluntary firemen brought patients to the clinic at no charge.

In both Santiago and San Juan there was a desire to receive more curative services. In the rural areas of both, the civil authorities offered to cooperate by providing the physical facilities needed for these activities.

A9. Reasons for success or failure to contribute resources

PCI staff believe that the reason for community contribution of resources, is the strong sense of community in the project's service areas. The volunteers who operate in San Juan do not think of themselves as PC1 volunteers, but rather "community volunteers". At present, the communities contribute all they can afford for preventive and curative services. There is little tradition of paying for preventive care. At the same time, women and children often do not have the status to justify payment for health care services.

B. ABILITY AND WILLINGNESS OF COUNTERPART INSTITUTIONS TO SUSTAIN ACTIVITIES

B1. Persons interviewed

Ministry of Health Personnel: Sra. de Rodas, Sololá's District Nurse, responsible for the coordination of health programs in the Department of Sololi Dr. Adrian Sapon, District Head of San Pedro La Laguna, San Juan de La Laguna and the rural areas of Palestina, Panyebar and Pasajquim, responsible for the coordination of health programs in urban and rural San Juan de La Laguna, particularly vaccination campaigns. Pedro Cholutio, Nurse of the health post in San Juan de La Laguna, responsible for coordination of EPI, CDD and prenatal care. Ismelda de Leon, Nurse at the health post in Cerro de Oro, responsible for coordination of EPI and health promotion activities. Raul Chaves, Nurse at the health post in Santiago, responsible for the coordination of vaccination and health promotion activities.

Asociacibn Amigos de1 Lago employees at their private clinic: Pedro Vazquez Rabinal, a health promoter, and Juan Quieju Coo, a student nurse, both responsible for the coordination of health related activities in Cerro de Oro.

The Population Council: Dr. Kjell Enge, country representative and Dr. Emma Ottolengui, technical director; they provide technical advice and training to PC1 personnel.

All PCI staff participated in group discussions and/or in depth interviews as part of this evaluation.

B2. Linkages of activities between PC1 and key development agencies

Other than PCI, the key health 'service provider in Santiago and San Juan was the Ministry of Health. At the central level, the discussions between PC1 and the MOH have included the possibility of PC1 being an MOH subcontractor for the provision of CDD, EPI and reproductive health services. This would represent the second such contract in the country (the first was made between CARE and the MOH in Totonicapan).

PC1 also defined a collaborative arrangement with the local MOH at the municipal level in Santiago. The EPI programs for the MOH and PC1 were combined. Vaccination posts were established in cantons and staffed simultaneously by PC1 EPI workers and MOH workers. PCI's HIS was utilized by the MOH and all immunization data were shared. The coordinator of the EPI program, Dr. Juan Manuel Chuc met regularly with the health center nurse Raul Chavez to program monthly activities and gather monthly statistics. This arrangement was initiated by PC1 and was defined by a written contract in May, 1994. In the areas that fall under the San Pedro municipality, there was a long relationship of collaboration in all interventions, with MOH staff working closely with PC1 health promoters.

PCI's oral rehydration units (ORUs) acted as 24-hour distributors of ORS packets provided by the MOH. PC1 and the MOH also coordinated their efforts to treat and prevent cholera cases. PC1 gave educational talks on hygiene and the MOH provided treatment. PCI's ORUs were frequent referral points for the supply of ORS packets to families advised by the MOH to treat cholera at home. One result was that ORS packets designated for children with diarrhea were being used by adults with cholera

PC1 and the MOH at the local municipal and district level collaborated in the training and supervision of TBAs. Supervision and training were carried out by both institutions and took place in the MOH facility with the assistance of the MOH nurse. PC1 was responsible for the training materials and content of the courses.

Currently PCI is working to increase ties with the district level hospital to improve the referral relationship and explore ways for PC1 to provide support to the hospital. This may include technical assistance from MotherCare and the Population Council. An example of this is the recently completed draft of obstetric protocols done by Dr Carlos Gonzales of INCAP working under contract to PCI. These protocols will be reviewed by district level personnel and eventually instituted in the PC1 facility as well as the district hospital PC1 will continue to work with Dr. Gonzales on developing the referral relationship and protocols throughout 1995 and 1996 under an arrangement for technical assistance from MotherCare.

The Population Council has provided, and will continue to provide in 1995, technical assistance for the reproductive health components of the project. This includes assistance in the improvement of the HIS, ongoing quality of care assurance, and continued training and development of educational materials.

APROFAM provides contraceptive methods at a low cost and training for **PCI** staff and volunteers. APROFAM and PC1 have a contractual agreement to not overlap service areas and hence **PCI** is the sole distributor of contraceptive methods in the Santiago region.

The collaboration with San Carlos University medical school ended in late 1993, as a result of strong community sentiments against receiving services from non-indigenous student physicians. The local dental technician trained by San Carlos continued to provide many of the services previously provided by the student dentists. PC1 was unable to continue the free care to school children and pregnant women previously provided by the students.

B3. Key local institutions the PVO expects to sustain activities

PC1 anticipates that Rxiin T'namet, the MOH, and perhaps Medicos del Mundo will collaborate for the continuation of services. The specific activities that these three entities will be able to sustain after CS funding ends is still to be determined.

B4. Perception of effectiveness of child survival activities

According to the results of the interviews, in the cases where the activities of the project were considered effective, immunizations was the most frequently mentioned, followed by hygiene education, particularly in the context of cholera

B5. PCI's skills building of counterpart organizations

PC1 has provided training to MOH personnel in the use of its HIS in EPI, specifically in the double registry system and use of vaccination bracelets for the illiterate mother volunteers.

With the use of funds provided by the Population Council during the first subcontract, PCI, ASECSA staff (Mayan training center in Chimaltenango) and MOH personnel were tested and trained in new contraceptive methods, including injectables, natural methods and LAM (exclusive breastfeeding).

At all trainings held by PCI, MOH personnel and various other parties interested in health were often invited. Their attendance varied greatly. The trainings over the last year covered topics such as HIV/AIDS education and prevention, house hold visit techniques, informed consent, trainer of training techniques for illiterate health promoters, importance of Vitamin A in chronic and acute diarrhea in children, and focus group research methods.

Trainings that were aimed largely at PC1 staff were designed to help them build the new counterpart institution Rxiin T'namet. They included project sustainability concepts, proposal writing for health projects, training of trainers, design and completion of implementation plans and computer training.

B6. Ability of institutions to sustain project activities

All the interviewees at the local level indicated their interest in continuing to give support to the project but specified that none of their institutions could commit themselves to maintain the project financially. According to the MOH personnel interviewed, the ministry does not have the financial and or human resources to sustain the EPI and CDD outreach activities of the project, it can only provide supplies. To date, the MOH has been providing the project with vaccines, ORS packages, and other basic materials such as cotton and syringes all free of charge. Despite the known limitations of the MOH, it was willing to continue supporting and coordinating efforts with the project. They will continue to supply vaccines, ORS packages and other basic materials such as syringes, cotton and aspirin free of charge.

At a central level, the MOH has mentioned the potential for financial resources to sustain EPI and CED project activities. A subcontract is being worked on as described previously in **B2**. This subcontracting interest arises from the realization on the part of key central MOH personnel that the local MOH staff lack credibility with the community and do not speak Tzutuhil in this near mono-lingual population group'.

APROFAM, the only national family planning non-governmental organization, will continue to supply contraceptives at cost and is willing to continue free training activities. Aesculapius, an international NGO based in some of PCI's service areas, has expressed interest in combining activities at no cost to PCI. This will increase PC1 volunteers by 75 and paid promoter staff by two. Medicos del Mundo of Spain is currently working on a collaboration plan with PC1 in CED activities and is seeking co-financing for approximately 20% of PCI's budget in 1995 from their major donor, the EEC.

B7. Counterpart perception of effectiveness of child survival activities

EPI was considered effective by the MOH. Many of the reproductive health components were too *new* to be evaluated at this point by any of the counterpart organizations.

Medicos del Mundo felt their success in Santiago was dependant on collaboration with PC1 and have expressed the sentiment that PC1 was the only effective institution doing health work in the Santiago area. Aesculapius also has approached PCI for administrative, training and technical support.

Through a collaborative agreement with the central MOH, MotherCare is planning to work with PC1 to provide technical assistance to improve obstetric services and further integrate our activities with the district MOH referral centers.

B8. Transfer of project control over local institutions

This project's sustainability strategy is now based upon the development of the clinic Rxiiin T'namet as a viable local organization capable of sustaining both health education and service delivery. Since the mid-term evaluation, PC1 has made a concerted effort to limit the expenses entailed in ex-patriate representation in order to maximize the local institution building opportunities. Over the past 18 months, PC1 has assisted its local staff to register as a local NGO, develop a framework for decision making amongst directors and tap into the training resources available.

Currently, the project is managed by local staff, with **PCI's** only expatriate representative in the country acting as a technical resource to assist with the introduction and integration of reproductive health interventions. All decisions regarding day-to-day operations are made by local staff. This can result in slower than anticipated progress, but the local staff are learning from hands-on experience.

According to **PCI**, the results have been very positive with local staff becoming much more visible in high-level policy meetings in the capital city with the **MOH**, **USAID** mission, and other international and national **NGOs**. In 1994, local staff were invited to present a paper at the **NCIH** meeting in Washington and the director was an official **UN** delegate and **NGO** representative at the population conference in Cairo.

B9. Institutions financial commitment

No financial commitments to sustain project benefits were made by any of the institutions involved during the design of the project.

B10. Not applicable

B11. Cooperation of in-country agencies in midterm and final evaluation

The in-country agencies that worked on the design, implementation and/or analysis of the mid-term evaluation were: **PC1** and **MOH**. The expected observer from **UNICEF** was unable to participate.

The in-country agencies which worked on the implementation of the final evaluation were: **USAID**, **MOH**, **Medicos de1 Mundo de España**, **Population Council** and **PCI**. The expected observer from **UNICEF** was unable to participate.

C. Attempts to Increase Efficiency

C1. Cost-reduction, productivity and efficiency strategies

Cost reduction has been an integral part of the project's efforts to improve sustainability. Measures have been taken on every front to keep costs at a minimum. All new interventions (e.g. reproductive health) carried with them cost recovery elements to improve sustainability.

PC1 closed its Guatemala City office and moved all its resources to the project site in Santiago. The potential loss of networking opportunities and representation has not adversely affected the project, and has allowed for over \$30,000 of savings each year. The **USAID** Mission staff have stated to **PC1** that they have seen more of **PC1** and know more about its work in Santiago since late 1993, than any time previously.

Very few new staff have been hired for the new interventions introduced; wherever possible, existing staff have been trained to assume the new responsibilities. The supervisory structure was revised and decision making from outside the community was eliminated. Higher paid outside professionals have been replaced by an increase in the number of lower paid experienced local health promoters and auxiliary nurses. This

has allowed the local staff to assume increasing responsibility of the project and has improved motivation and productivity.

The recent introduction of electronic mail, spreadsheet and advanced word processing software allowed more efficient use of time and human resources. The addition of a telephone and fax line to project offices in the village (there was no phone line until November, 1993) has made an enormous difference in productivity and the availability to key institutions in the capital. The addition of a second vehicle, previously used solely in the capital, has also increased productivity in activities such as vaccination campaigns and trips by health workers to outlying project areas previously made by public transportation or on foot. It has also allowed PC1 to assist the MOH in collaborative activities as they also suffer from limited access to vehicles and means of communication.

Moving the clinic and project offices closer to the center of town has improved access to health services and has reduced the amount of time PC1 staff spend getting to and from the offices and clinic. Many of the EPI and CED and reproductive health activities occur in the center of town or in outlying areas in the opposite direction from the old offices.

c2. Reasons success or failure of efficiency increase attempts

The main reason for the success of these attempts was that PCI's local staff (including the new country representative) have perceived the need for and supported the changes. The staff themselves suggested many of the changes made in 1993, and sufficient time and energy was devoted to strategy sessions with the entire personnel to plan and implement changes.

According to PCI, decisions concerning efficiency and quality of care have been made in a "horizontal" fashion with **all** project staff participating in decisions relevant to their work activities. Previously a strict hierarchy was maintained and all key decisions were made by the country director in consultation with **Guatemalan** City staff. The city staff traveled to the project area only once every month or two, with information and feedback systems poor or non-existent.

One significant barrier to efficiency was the **difficulty** of key project staff traveling frequently to the capital on roads that were **difficult** and dangerous. The only alternative route required twice the driving time on poorly maintained roads.

c3. Lessons learned over efficiency

PC1 **staff** reported the following as lessons learned:

- Community based projects can not be efficiently run by staff living and working far from the project site.

In countries like Guatemala where large cultural and economic gaps between ethnic groups exist, it makes little sense to place minority elites in positions of great responsibility or power. The results are often that the community workers have a great deal of responsibility for the activities of the

project but possess little power to influence program design or activities. This style of management and decision making leads to great inefficiency as the less competent direct the activities of the more able.

When a project has well trained staff with years of experience in a community, it is wise to include the most qualified and experienced workers in the decisions of day-to-day management as well as long range planning. This is particularly relevant for organizations like PC1 who have long-term relationships with the communities they serve.

Careful selection of technical advisors can create an atmosphere very conducive to ongoing quality control. These advisors should ideally have some long term relationship with the project and credibility in their field. Technical advisors with less community or technical background than their project counterparts but possessing appropriate “credentials” get little respect and hence their work is very ineffective, and leads to inefficiency

Appropriate use of new technologies such as computer systems and software can greatly increase **efficiency**. Even workers with little formal education can use such systems effectively and they reduce the number of support staff needed for efficient management.

Strategic planning must involve all project staff Significant programmatic changes, financial restraints and considerations, and another other major changes in the project must be presented in a fashion that gives all workers enough information to understand their significance. **PCI's** experience is that even the lowest level health worker has strong opinions about the meaning of their work and the project. Well informed workers are more efficient workers.

The participation of community leaders is essential. New and different strategies must be explored in each community to see what works. Requirements for participating must be that the leaders are well informed and interested in preventive health and the activities of the project. If they are not, their participation will only lessen the efficiency of the project.

D. Cost-Recovery Attempts

DI. Specific cost-recovery mechanisms and management.

The project has been using revenue generation from the clinic to offset expenses since the beginning of CSVII. However, over the past 18 months, new revenue generation activities have been undertaken. These include: selling medicines outside of the clinic (botiquines), revising the price schedule, improving access for rural residents (consult extema), more advertisements, the sale of contraceptives, and the incorporation of **TBA**s into the clinic. Revenue generation activities that have remained constant over the three year life span of the CSVII project include: pharmacy, laboratory services, medical services, dental services, and the incorporation of San Juan de La Laguna into the service area.

The director of the project (Leticia Toj) has overall responsibility for cost recovery, with the clinic doctors, pharmacy/laboratory technician, dental technician, and reproductive health coordinator assuming responsibility for day-to-day implementation.

PCI's focus on reproductive health, especially family planning has the potential to improve cost recovery. The project can acquire the methods at a reduced "at **cost**" price through a long standing contract with APROFAM. PC1 is the sole distributor of APROFAM-supplied methods in the Santiago area. This means that PC1 is the only source of low-cost contraception in the village. The MOH post has no methods (or other pharmacueticals) to distribute and the pharmacies are often charging up to three times what PC1 charges for hormone-based and barrier methods. For example, PC1 buys a three month supply of Depoprovera for Q15 (less than \$3) and sells it for 425. The pharmacies on average charge **Q75** for the three month injection. Because PC1 requires a visit with the physician at the first visit, they may be charging about the same as the pharmacies for a first visit, but subsequent visits are much cheaper as the patient pays for the medication and a very low fee for the visit. Annual profit from the sale of contraceptives is not anticipated to exceed \$1,000.

Another new method of cost recovery was the small basic pharmacy now supplied on an experimental basis to each interested CBD. An initial analysis of cost recovery for the minipharmacies revealed the potential for both profit and prestige for the volunteers. The minipharmacies will be supplied to all volunteers who request them in 1995.

D2. Costs recovered during the life of the project.

Since the beginning of CSVII, PC1 has generated \$56,430 in local revenue distributed as follows:

Medical services:	\$5,969
Dental Clinic:	\$5,384
Pharmacy:	\$39,928
Laboratory:	\$1,294
External Consultation:	\$2,770
Emergencies:	\$1,083
Total	\$56,430

It is important to note that almost half of the \$56,430 was generated in calendar year 1994 alone, demonstrating an improving trend.

Without elaborate cost/benefit analysis it is hard to determine exactly how much each activity cost compared to its return. However, PC1 staff believe it is fair to say that the revenues generated were worth the expenses. If it were not for the revenue generation mechanisms, the sustainability potential of the project would **not be** so favorable. A good example is the pharmacy, where PC1 makes about a 10% profit on every medicine sold. The alternatives are to sell things at a lower **cost** or raise the price above local market conditions, neither of which would improve sustainability.

D3. The effect of cost recovery activity on the PVO's reputation and service quality.

The only criticism heard from community members regarding the project's activities, was that they were too expensive. They had the misconception that private doctors would be cheaper. Cost has always been a criticism of health services, yet in this case, the clinic was seeing more patients than ever. PCI believes that the recent increase in prices, combined with the change of location has created some confusion. PC1 is using the health volunteers and the local radio station to disseminate accurate information.

The reputation of the clinic appeared to be improving with the use of more Tzutuhil speaking employees, a wider selection of services, and improved quality of care. PC1 instituted a sliding scale for clinic fees. Judgement about ability to pay was not done by formal documentation but rather by the pharmacist/clinic administrator who knows the community well. Inequities still exist depending on ability to pay. By far the greatest expense incurred by a patient is in medication and equipment, particularly when addressing obstetric and gynecological services. The sliding scale does not apply to medications and equipment as PCI charges only slightly above cost. PC1 is not allowed to import medical supplies into the country without paying duties, and this has prevented PC1 from providing lower cost services. The poorest residents could not afford the clinic's services and relied on the Ministry of Health for health care.

D4. Reasons for the success or failure of the household income generating activities of this project.

The household income generation activities appeared to be successful at this early stage. The success can be attributed to the close integration of services with the needs of the community. PC1 held various focus groups, group meetings, and other venues for community residents and staff members to voice their ideas and opinions regarding cost recovery efforts.

DS. Cost recovery lessons learned.

The experience in Santiago Atitlan may be too unique to make many assumptions about what would work in other child survival activities, however, a few points can be assumed to be applicable to a wide variety of developing world settings.

Illiterate men and women can very successfully handle small businesses (PCI's example is the household pharmacy) if appropriate support is given. The supervisors that monitor the household generation projects have a limited education themselves but can read and write which seems to be a minimal requisite to support the activity.

Income generation activities must be kept small. They work best when they are closely related to the project. The earlier attempts to build low smoke stoves and latrines quickly became marginalized from the central project and lost momentum and support from administrative personnel. The stove and latrine builders, originally trained by PCI, still operate and are able to cover their own operating costs, however, they do not help to finance PCI's health education activities.

Low-profit activities are still worth implementing in depressed economies such as that of the rural highlands of Guatemala. A monthly profit of \$5.00 can represent a 25% increase in household income.

Simple accounting systems can be successfully used by project personnel to adequately track profit and losses. These skills can be applied in small programs such as contraceptive distribution, or in more ambitious activities such as running a primary care clinic.

When providing direct services to impoverished communities, it is very possible that the cost of services may exceed disposable income. In such a case, either services must be subsidized over the long term, or the selection and quality of services *need* to be reduced.

In circumstances where the local government is not held responsible for the provision of basic health services, and outside entities assume the financial burden of providing the required services, incentives for financial support from the government are reduced. The population will receive a portion of the services it requires, thus allowing the national government to postpone addressing the health service shortage until future administrations take office.

E: Household Income Generation

E1. Household income-generating activities implemented by the project

The main household income-generating activity implemented by the project was the establishment of mini-pharmacies ('botiquines'). Community volunteers are able to supplement their income through the sale of over-the-counter medicines and contraceptives from their homes. The 'botiquines' supplied 10 basic medicines, including gauze, alcohol, tape, analgesics, antihelminths and antitussives, ORS, and family planning devices (condoms, vaginal suppositories and pills). At the present time, 11 of those mini-pharmacies have been established; five are located in the urban areas and two in the rural area of Santiago, and four in San Juan de La Laguna.

E2. Estimation of the dollar amount of income added to a family or household's annual income, as a result of the income-generating activity of the project.

Each mini-pharmacy owner earned between \$0 and \$10 per month; the average over the past three months was \$2.75 per owner. Each contraceptive distributor earned an average of U.S. \$30 per month from the sale of the contraceptives. PC1 provided the supplies and the mini-pharmacy owner was allowed a 10% mark up.

Since this component of the project was very new (only three months old), PC1 staff believed it could generate more money when more people know about pharmacy locations. With respect to increases in income through sales of contraceptives, PC1 was well aware that it will take a long time before it becomes a significant source of revenue for the mini-pharmacy owners,

E3. Contribution of revenues in meeting the cost of health activities. And percentages of project costs covered by the income generation activities

No such analysis has been carried out yet; the botiquines were established in June 1994, so it is too soon to try to measure an impact. It is expected that the team from Initiatives who will be working with PC1 for a period of 18 months in 1995 and 1996, will be in a better position to answer this question.

E4. Lessons learned regarding household income generation

Mini-pharmacies are potentially an excellent idea particularly in remote areas. For PCI, the field testing of pharmacies is still too new to provide for concrete lessons learned. Some of the considerations that PC1 has taken into account may be useful for other PVOs interested in household income generation activities utilizing pharmaceuticals.

The medicines need to be kept very basic. The addition of new medications should only be done under conditions of adequate control and training.

There is the potential risk that the owner might try to sell other types of medications that require prescriptions due to costumers' demands and/or the desire to supplement his/her income. This could jeopardize the health of the client and the image of the project.

ORS packages cannot be sold for a fee. This prevents any income generation. However, their inclusion in the household pharmacy scheme improves their status as "medicine" in a community widely using medicines to treat diarrhea.

The PC1 mini-pharmacies have an advantage over commercial pharmacies with the clinical support and backup for the gravely ill. This referral network allows for improved coordination and care between the household pharmacy and the clinic.

Selling contraceptives as part of a household pharmacy is not necessarily going to increase the profit of the pharmacy until there is greater demand for methods, but it can lend credibility to the contraceptive distributor and confidentiality to the client.

F. Other

F1. Sustainability-promoting activities carried out by PCI over the lifetime of the project

In the next two years, PC1 plans to transfer responsibility for health programs in Santiago and San Juan to the local NGO **Rxiin T'namet**. PC1 has helped its local staff to apply for the status of local NGO. In addition, it has sought the support of other organizations to provide extensive training to the staff at all levels, to assure the successful transfer of responsibilities of the project to the future NGO.

PC1 has coordinated activities with several organizations in order to enhance their understanding of and ability to address local health needs. These included the MOH, APROFAM, the Association of Amigos de1

Lago, the Rotary Club, local municipal committees, the Catholic Church, the San Carlos University and lately with Medicos de1 Mundo and the Population Council. These relationships will help PC1 staff to sustain activities under the auspices of Rxiin T'namet.

The coordination with the MOH has consisted mainly in joining efforts to control diarrheal diseases, improve immunization coverage and joint training of TBAs. The MOH provided supplies including ORS packages, vaccines, syringes and other basic materials. Lately MOH personnel have been doing vaccination and cholera education side-by-side with PC1 volunteers as the MOH technical staff do not speak Tzutubil.

APROFAM provided PC1 with family planning methods and training, in return PC1 did not work where APROFAM did. The Association of Amigos de1 Lago allowed the health team sent by the project to Cerro de Oro the use of their private clinic to provide services. The Rotary Club gave donations in the form of surgical equipment. The Aldea of Panyebar lent the municipality building for PCI's health team to provide services to the community. The Association of Voluntary Firemen provided transportation of patients to the clinic.

PC1 signed an agreement with the villages of Patanatic and Cerro de Oro which requested PC1 to help them organize and sustain their health services. The association with the village of Patanatic ended with the reduction of service areas as a result of the recommendations of the mid-term evaluation.

As PC1 began to focus more on reproductive health services including family planning, the relationship with the Catholic Church began to grow uncomfortable and the decision was made on both sides to end this association. The association with San Carlos University medical school has also ended with the move to a smaller clinic space. San Carlos University previously sent dental and medical students for rural rotations in the clinic and in return supplied the clinic with dental equipment, services and training. The medical students were not popular and in focus groups many complaints were expressed about seeing inexperienced young non-indigenous physicians. The dental program was more popular but very costly as PC1 was prohibited from charging for services rendered by the dental students and the trained local dental technician was not being well used. The dental clinic at the new site is always busy and brings in significant revenue for the clinic.

The recent association with the Population Council has and will provide PC1 with extensive training for the reproductive health component, training in data gathering methodologies and the development of a computerized HIS.

PC1 reinforced community organization in addressing their basic health needs through the training and supervision of a network of community volunteers, whose task was to promote preventive interventions (EPI, CDD and maternal care) and create demand for those services. Lately, with the help of the Population Council, PC1 has actively introduced birth spacing methods training and promotion as part of the reproductive health activities of the volunteers. In addition, PC1 enrolled members of the network of community volunteers as distributors of ORS packages and family planning methods.

PC1 is also in the process of ensuring that low cost commodities, such as basic drugs, ORS packages and contraceptives are available within a reasonable distance for local residents through the introduction of mini-pharmacies owned and administered by community volunteers.

PC1 has done a technical review of the overall program and trained most of the personnel in the new health and administrative procedures. This included the development of an accounting system to allow the project to analyze its cost recovery by intervention and to develop sustainability strategies accordingly. In addition, it has segmented the market of its curative services, diversified the services and created a system of cross subsidies.

F2. Activities implemented satisfactorily

Many of the activities mentioned have been implemented satisfactorily. Others, as already mentioned, are in the process of development/implementation, and therefore it is too soon to tell with any certainty and/or foresee their potential impact on the project.

F3. Change in the sustainability potential of project benefits

The only really qualitative data indicating a change in the sustainability potential of project benefits was the possibility that the MOH would buy the project's services, acting as a co-financier of the project activities with other national and international organizations. PC1 expects to have concrete progress on this issue in 18 months.

Other indications of sustainability potential included the stated continuing support of the community and the willingness of some communities to offer more resources. PC1 management reported an overall positive attitude of PC1 local staff since the substitution of vertical into horizontal and consensual decision making, and the active participation in the detection of weakness areas and the elaboration of potential solutions.

III. CONCLUSIONS AND RECOMMENDATIONS

Based on the results of this evaluation and extensive interviews with members of PC1 staff, the main conclusions and recommendations that can be made are the following:

Conclusion: With respect to the project's objectives, the project is behind schedule and the accomplishments have been modest; except for the improvements in appropriate feeding practices and maternal care. The reasons for the project's inability to achieve its objectives have been presented and discussed, along with many unanticipated results.

Recommendation: PC1 should improve its ability to establish realistic objectives for health activities in *Santiago* and *San Juan*. *Note: PCI believes that the revisions to the management structure and decision making process will improve its ability to reach its objectives.*

Conclusion: PCI's reproductive health education activities focus on the use of volunteers to provide mothers with health education. Any improvement or expansion in reproductive health outreach needs to include additional volunteers and traditional birth attendants.

Recommendations:

- ✓ PC1 should try to seek the cooperation of more TBAs and study the possibility to further enhance their training and role in the project, as they appear to have some influence over the families of pregnant women, including the husbands,' and in many cases they are/could be the first step in the referral sequence.

- J From the informal interviews with some volunteer TBAs, their lack of solid knowledge and understanding of the modern birth spacing methods available became apparent, as well as their preference for the natural methods. Since these findings are consistent with previous studies, PC1 should try to do more qualitative studies, using in-depth interviews³, on the knowledge, attitudes and practices of the volunteer and non-volunteer TBAs towards reproductive health. This will allow PCI to develop appropriate training material to enhance their understanding and perhaps encourage more participation. Note: *This process is already underway with technical assistance from the Population Council.*

- J Evidence derived from the evaluation study suggests that some mothers do not consider the natural method as a "method," therefore more emphasis should be put on the explanation that birth spacing can be achieved by natural as well as artificial methods. Note: *This process is already underway with technical assistance from the Population Council.*

- J It would be advisable for PC1 to carry out standardized in-depth interviews with more fathers of families to learn in more detail their aptitudes towards birth spacing and their knowledge and preferences of methods. Then, inquire about the best way to reach the male population and seek their cooperation in the activities of the project. Note: *This process is already underway with technical assistance from the Population Council.*

- J The use of proactive supervision should be expanded and encouraged with an emphasis placed on home visits by PCI volunteers. The quality and content of the talks should be emphasized over the frequency of the visits.

Conclusion: PCI's project in Guatemala has improved its ability to generate local cash resources to support project activities, however, more resources will be required to maintain operations after PC1 ends its financial involvement in 1997'.

³Since there is already well documented evidence that the topic of birth spacing methods is considered taboo among the majority of the Mayan populations, PCI believes that the use of in-depth interviewing would be a better method to obtain reliable information than focus groups.

⁴In the third quarter of 1993, PCI generated \$2,841. In each subsequent quarter, PC1 has nearly tripled this amount (1st=\$6,166; 2nd=\$9,026; 3rd=\$7,405) while reducing costs.

Recommendations: PC1 should explore and identify additional sources/strategies for support. Suggestions include:

- J* Identify neighboring communities that have perceived the need for the services the project offers and that have the ability and willingness to contribute resources. Study the possibility of expanding areas of operation to neighboring villages, such as San Pedro, that are in a better position to pay for services.
- ✓ Offer more services and/or send the health team more often to San Juan de La **Laguna**, particularly for prenatal and post natal care. The community perceives the need for services and the municipality leaders have stated their willingness to contribute resources as a form of payment. *Note: PCI is not aware of any cash resources being promised. During interviews with municipal leaders, they only offered a locale for PCI medical services.*
- J* In terms of household income generation, PC1 should promote household pharmacy establishment in the rural areas where sales could be higher since access to health services/supplies is minimal.

Conclusion: The project has suffered from a lack of integration of services and separation of interventions. This has resulted in many lost opportunities, particularly for immunizations and reproductive health education.

Recommendation: Efforts should be made to integrate all promoter activities, particularly with EPI and reproductive health staff and volunteers.

Conclusion: PCI's activities are not well recognized by municipal leaders and the municipalities provide few resources for project implementation. The same could be said about local NGOs who are not aware of the scope of PCI's efforts.

Recommendations: PC1 should attempt to integrate the MOH, municipal employees and local NGO members into more project activities. Suggestions include:

- J* Increase efforts to communicate with the community leaders, particularly the municipalities and explain the goals of the project. Promote the project by means of the supervisors. An additional result of this activity could be to motivate their participation and involvement in the municipal health committees.
- ✓ Coordinate efforts more closely with other agencies that are working in the area, to avoid overlapping of efforts, wasted resources and incomplete results. Increase coordination with agencies working in the areas covered by the project to avoid competition over the scarce resources the community can and is willing to offer.
- ✓ Continue to provide more feedback information on the activities of the project, on a regular basis, to the cooperating organizations, including the MOH and local NGOs.

Conclusion: Since PC1 is emphasizing the potential of the future local NGO, Rxiin T'namet, as a sustainability strategy, it should be noted that even though the PC1 staff who will take charge are highly motivated, it is apparent to all observers that the survival of the project will be jeopardized if the leaders of the future NGO decide for any reason to leave the project. Therefore,

- ✓ It will be advisable to begin the process of identification and education of potential bilingual community leaders who could continue the work of the future local NGO.
- J PC1 should Identify and support young community females who might have the potential to become educated individuals capable to occupy positions at all levels of the local NGO.
- ✓ It will also be advisable if PC1 carries out a study about the feelings of the community towards a local NGO, specially to find out if that will increase their willingness to contribute resources to support its activities; focusing the study on the attitudes of the leaders of the community over the subject.

Iv. EVALUATION TEAM

A1. Composition of the Evaluation Team

Pilar Martinez-Enge, Ma., MPH.-- Independent consultant.
Richard Covington, MPIA. -- PC1 headquarters program representative.
Deborah Bickel, PA., MPH.-- PC1 country representative.
Leticia Tot, RN.-- Project director
Francisco **Mendez** Puac, MD.-- PC1 co-project director.
Adolfo Jimenez, Engineer - Medicos de1 Mundo de **España** project director.
Alison Plyer -- Initiatives representative.
David Mager -- Initiatives representative.

A2. Authors of Evaluation Report

Pilar Martinez-Enge was originally responsible for the coordination of the evaluation, completion of all data collection and data analysis, and the writing of the evaluation and survey reports. The drafts provided to PC1 by the consultant were incomplete. To complete the work, PC1 elected to rewrite the draft reports and complete the portions left unfinished. Some data remained in Spanish (as submitted by the consultant) due to time limitations. The final authors of the evaluation and survey reports were Pilar Martinez-Enge, Richard Covington and Deborah Bickel.

1. This information is based upon PCI reports of conversations held with the central MOH.

APPENDIX 1

FINAL SURVEY REPORT AND ANNEXES